

ABSTRACT OF THE DISCLOSURE

ARRANGEMENT OF A DATA COUPLER FOR POWER LINE
COMMUNICATIONS

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There is provided an arrangement of components for coupling data between a power line and a communication device. The arrangement includes an inductive coupler that employs a power line conductor as a primary winding, a capacitor connected across a secondary winding of the inductive coupler for creating a resonant circuit with the secondary winding at a frequency within a desired frequency band, and an impedance matching transformer for connecting a communications device to the secondary winding. The resonant circuit has a loaded Q consistent with the desired bandwidth. An alternative arrangement includes a capacitor in series with a conductive cylinder between the power line and the communication device, where the capacitor is for blocking power line voltage while passing a signal between the power line and the communication device, and the conductive cylinder appears as a low inductance to the signal.